

**DECISION
AND
FINDING OF NO SIGNIFICANT IMPACT**

**REDUCING MAMMAL DAMAGE
THROUGH AN
INTEGRATED WILDLIFE DAMAGE MANAGEMENT PROGRAM
IN THE STATE OF NEW JERSEY**

The U.S. Department of Agriculture, Animal and Plant Health Inspection Service (USDA APHIS), Wildlife Services (WS) program responds to requests for assistance from individuals, organizations and agencies experiencing damage caused by wildlife. Ordinarily, according to APHIS procedures implementing the National Environmental Policy Act (NEPA), individual wildlife damage management actions may be categorically excluded (7 CFR 372.5(c), 60 Fed. Reg. 6000-6003, 1995). To evaluate and determine if any potentially significant impacts to the human environment from WS' planned and proposed program would occur, an environmental assessment (EA) was prepared. The EA documents the need for mammal damage management (MDM) in New Jersey and assessed potential impacts of various alternatives for responding to damage problems. The EA analyzes the potential environmental and social effects for resolving mammal damage related to the protection of resources, and health and safety on private and public lands in New Jersey. WS' proposed action is to implement an Integrated Wildlife Damage Management (IWDM) program on public and private lands in New Jersey. Comments from the public involvement process were reviewed for substantive issues and alternatives which were considered in developing this decision.

WS is the Federal program authorized by law to reduce damage caused by wildlife (Act of 1931, as amended (46 Stat. 1486; 7 U.S.C. 426-426c) and the Rural Development, Agriculture, and Related Agencies Appropriations Act of 1988, Public Law 100-102, Dec. 27, 1987. Stat. 1329-1331 (7 U.S.C. 426c), and the Agriculture, Rural Development, Food and Drug Administration, and Related Agencies Appropriations Act of 2001, Public Law 106-387, October 28, 2000. Stat. 1549 (Sec 767). Wildlife damage management is the alleviation of damage or other problems caused by or related to the presence of wildlife, and is recognized as an integral part of wildlife management (The Wildlife Society 1992). WS uses an IWDM approach, commonly known as Integrated Pest Management (WS Directive 2.105) in which a combination of methods may be used or recommended to reduce damage. WS wildlife damage management is not based on punishing offending animals but as one means of reducing damage and is used as part of the WS Decision Model (Slate et al. 1992, USDA 1997, WS Directive 2.201). The imminent threat of damage or loss of resources is often deemed sufficient for wildlife damage management actions to be initiated (U.S. District Court of Utah 1993). Resource management agencies, organizations, associations, groups, and individuals have requested WS to conduct mammal damage management to protect resources and human health and safety in New Jersey. All WS wildlife damage management activities are in compliance with relevant laws, regulations, policies, orders and procedures, including the Endangered Species Act of 1973.

Consistency

The analyses in the EA demonstrate that Alternative 2: 1) best addresses the issues identified in the EA, 2) provides safeguards for public health and safety, 3) provides WS the best opportunity to reduce damage while providing low impacts on non-target species, 4) balances the economic effects to agricultural and natural resources, and property, and 5) allows WS to meet its obligations to government agencies or other entities.

Monitoring

The New Jersey WS program will annually review its impacts on target mammal species and other species addressed in the EA each year to ensure that WS program activities do not impact the viability of target and non-target wildlife species. In addition, the EA will be reviewed each year to ensure that it and the analysis are sufficient.

Public Involvement

The pre-decisional EA was prepared and released to the public for a 31-day comment period by a legal notice in *The Gloucester County Times*, *The Press of Atlantic City*, *The Star Ledger*, *Courier Post*, and *Today's Sunbeam* on April 22 and 23, 2004. A letter of availability for the pre-decisional EA was also mailed directly to agencies, organizations, and individuals with probable interest in the proposed program. A total of 8 comment documents (7 in support of the proposed program; 1 opposed) were received from the public after review of the pre-decisional EA. All comments were analyzed to identify substantial new issues, alternatives, or to re-direct the program. Responses to specific comments are included in Appendix A. Based upon these comments, several minor editorial changes have been incorporated into the EA. These minor changes enhanced the understanding of the proposed program, but did not change the analysis provided in the EA. All letters are maintained in the administrative file located at the New Jersey Wildlife Services State Office, 140-C Locust Grove Road, Pittstown, NJ 08867.

Major Issues

The EA describes the alternatives considered and evaluated using the identified issues. The following issues were identified as important to the scope of the analysis (40 CFR 1508.25).

- Effects on Target Mammal Species
- Effects on Other Wildlife Species, including T&E Species
- Effects on Human Health and Safety
- Impacts to Stakeholders, including Aesthetics
- Humaneness and Animal Welfare Concerns of Methods Used

Affected Environment

The areas of the proposed action could include areas in and around commercial, industrial, public, and private buildings, facilities and properties and at other sites where mammals burrow, feed, or otherwise occur. Examples of areas where mammal damage management activities could be conducted are, but are not necessarily limited to: agricultural fields, vineyards, orchards, farmyards, dairies, ranches, livestock operations, waste handling facilities, industrial sites, natural areas, government properties and facilities, private homes and properties, corporate properties, schools, hospitals, parks and recreation areas, swimming lakes, communally-owned homeowner/property owner association properties, natural areas, wildlife refuges, wildlife management areas, coastal and tidal beaches, ponds, rivers, and inlets, airports and surrounding

areas. The proposed action may be conducted on properties held in private, local, county, state or federal ownership.

Alternatives That Were Fully Evaluated

The following four alternatives were developed to respond to the issues. Three additional alternatives were considered but not analyzed in detail. Appendix B of the EA provides a description of the methods that could be used or recommended by WS under each of the alternatives. A detailed discussion of the effects of the Alternatives on the issues is described in the EA; below is a summary of the Alternatives.

Alternative 1: Technical Assistance Only. This alternative would not allow for WS operational MDM in New Jersey. WS would only provide technical assistance and make recommendations when requested. Producers, property owners, agency personnel, corporations, or others could conduct MDM using any legal lethal or non-lethal method available to them.

Alternative 2: Integrated Mammal Damage Management Program (Proposed Action/No Action). USDA, APHIS, WS proposes to continue the current damage management program that responds to mammal damage in the State of New Jersey. WS involvement in mammal damage management in New Jersey is closely coordinated with the New Jersey Division of Fish and Wildlife (NJDFW), and WS take of mammals is authorized through permits and/or other authorities. An IWDM approach would be implemented to reduce mammal damage to property, agricultural resources, and natural resources, and to reduce mammal impacts on human/public health and safety. Damage management would be conducted on public and private property in New Jersey when the resource owner (property owner) or manager requests assistance. An IWDM strategy would be recommended and used, encompassing the use of practical and effective methods of preventing or reducing damage while minimizing harmful effects of damage management measures on humans, target and non-target species, and the environment. Under this action, WS could provide technical assistance and direct operational damage management, including non-lethal and lethal management methods by applying the WS Decision Model (Slate et al. 1992). When appropriate, physical exclusion, habitat modification or harassment would be recommended and utilized to reduce damage. In other situations, mammals would be removed as humanely as possible using shooting, trapping, and registered pesticides and other products. In determining the damage management strategy, preference would be given to practical and effective non-lethal methods. However, non-lethal methods may not always be applied as a first response to each damage problem. The most appropriate response could often be a combination of non-lethal and lethal methods, or could include instances where application of lethal methods alone would be the most appropriate strategy.

Alternative 3: Non-lethal Mammal Damage Management Only by WS. This alternative would require WS to use non-lethal methods only to resolve mammal damage problems. Information on lethal MDM methods would still be available to producers and property owners through other sources such as NJDFW, USDA Agricultural Extension Service offices, universities, or pest control organizations. Requests for information regarding lethal management approaches would be referred to NJDFW, US Fish and Wildlife Service (FWS), local animal control agencies, or private businesses or organizations. Individuals might choose to implement WS non-lethal recommendations, implement lethal methods or other methods not recommended by WS, contract

for WS direct control services, use contractual services of private businesses, or take no action. Persons receiving WS's non-lethal technical and direct control assistance could still resort to lethal methods that were available to them.

Alternative 4: No Federal WS Mammal Damage Management. This alternative would eliminate WS involvement in MDM in New Jersey. WS would not provide direct operational or technical assistance and requesters of WS's assistance would have to conduct their own MDM without WS input. Information on MDM methods would still be available to producers and property owners through other sources such as NJDFW, USDA Agricultural Extension Service offices, universities, or pest control organizations. Requests for information would be referred to NJDFW, FWS, local animal control agencies, or private businesses or organizations. Individuals might choose to conduct MDM themselves, use contractual services of private businesses, or take no action.

Alternatives Considered but not Analyzed in Detail:

Lethal Mammal Damage Management Only By WS

Under this alternative, WS would not conduct any non-lethal control of mammals for MDM purposes in the State, but would only conduct lethal MDM. This alternative was eliminated from further analysis because some mammal damage problems can be resolved effectively through non-lethal means. Additionally, lethal methods may not always be available for use due to safety concerns or local ordinances prohibiting the use of some lethal methods, such as the discharge of firearms.

Compensation for Mammal Damage Losses

The compensation alternative would require the establishment of a system to reimburse persons impacted by mammal damage. This alternative was eliminated from further analysis because no federal or state laws currently exist to authorize such action. Under such an alternative, WS would not provide any direct control or technical assistance. Aside from lack of legal authority, analysis of this alternative in the ADC Final EIS indicated that the concept has many drawbacks (USDA 1997):

- It would require larger expenditures of money and labor to investigate and validate all damage claims to determine and administer appropriate compensation.
- Compensation would most likely be less than full market value. Responding in a timely fashion to all requests to assess and confirm damage would be difficult and certain types of damage could not be conclusively verified. For example, proving conclusively in individual situations that mammals were responsible for disease outbreaks would be impossible, even though they may actually have been responsible. Thus, a compensation program that requires verification would not meet its objective for mitigating such losses.
- Compensation would give little incentive to resource owners to limit damage through improved cultural, husbandry, or other practices and management strategies.
- Not all resource owners would rely completely on a compensation program and unregulated lethal control would most likely continue as permitted by state law.
- Compensation would not be practical for reducing threats to human health and safety.

Reproduction Control

Reproductive control is often considered for use where wildlife populations are overabundant and where traditional hunting or lethal control programs are not publicly acceptable (Muller et al. 1997). Use and effectiveness of reproductive control as a wildlife population management tool is limited by population dynamic characteristics (longevity, age at onset of reproduction, population size and biological/cultural carrying capacity, etc.), habitat and environmental factors (isolation of target population, cover types and access to target individuals, etc.), socioeconomic and other factors. Population modeling indicates that reproductive control is more efficient than lethal control only for some rodent and small bird species with high reproductive rates and low survival rates (Dolbeer 1998). Additionally, the need to treat a sufficiently large number of target animals, multiple treatments, and population dynamics of free-ranging populations place considerable logistic and economic constraints on the adoption of reproduction control technologies as a wildlife management tool for some species. Research into reproductive control technologies, however, has been ongoing, and the approach will probably be considered in an increasing variety of wildlife management situations.

Reproductive control for wildlife could be accomplished either through sterilization (permanent) or contraception (reversible).

Sterilization could be accomplished through:

- Surgical sterilization (vasectomy, castration, and tubal ligation),
- Chemosterilization
- Gene therapy.

Contraception could be accomplished through:

- Hormone implantation (synthetic steroids such as progestins)
- Immunocontraception (contraceptive vaccines)
- Oral contraception (progestin administered daily).

Research into the use of these techniques would consist of laboratory/pen experimentation to determine and develop the sterilization or contraceptive material or procedure, field trials to develop the delivery system, and field experimentation to determine the effectiveness of the technique in achieving population reduction.

The use of hormones was investigated (Matschke 1976, 1977 a, b, c, Roughton 1979), and eventually rejected as an effective and efficient reproductive control technique for deer. Additionally, concerns related to costs and logistics of widespread distribution of drugged baits, dosage control and ingestion of baits by children and nontarget animals make oral contraception (by steroids) largely impractical (Lowery et al. 1993). More recently, immunocontraception has been studied in various situations and locations, but its potential use appears limited due to considerable constraints regarding treatment and follow-up treatment of a sufficiently large number of target animals, varying immunogenicity of vaccines, genetic backgrounds of individual animals, age, nutritional status, stress and other factors (Becker and Katz 1997, Becker et al.

1999). Immunocontraceptive vaccines prevent conception by stimulating the production of antibodies that bionutralize proteins or hormones essential for reproduction (Miller et al. 2000). The use of porcine zona pellucida (PZP) as a contraceptive agent in wildlife management has been investigated recently (Kirkpatrick et al. 1990, Turner and Kirkpatrick 1991, Turner et al. 1992 and 1996), but to date, there is no published documentation that immunocontraceptive vaccines have successfully reduced any free-ranging deer herd or population. Additionally, Underwood and Verret (1998) reported that despite 5 years of PZP treatment, the Fire Island, NY white-tailed deer population continued to grow, albeit at a slower rate. Other components of the reproductive system have been studied for immunocontraception as well, such as GnRH (Becker and Katz 1997, Becker et al. 1999).

Recently, Canadian researchers at Dalhousie University (Halifax, Nova Scotia) have investigated the use of a single-dose immunocontraceptive vaccine based on liposome delivery of PZP antigens (Spay VacTM), and reported a 90% reduction in pup production by gray seals (*Halichoerus grypus*) (Brown et al. 1997). Fraker et al. (in press) reported that fertility of an island population of fallow deer (*Dama dama*) was greatly reduced by a single administration of Spay VacTM during the first year of treatment; a longer-term assessment is underway. Refinement of the delivery system and field application/experimentation on the ability of Spay VacTM to reduce free-ranging cervid populations will occur in subsequent years.

Turner et al. (1993) note that although contraception in white-tailed deer may be used to limit population growth, it will not reduce the number of animals in excess of the desired level in many circumstances. They further contend that initial population reductions by various other means may be necessary to achieve management goals, and that reproduction control would be one facet of an integrated program. In sum, although immunocontraceptive technology has been variously effective in laboratories, pens, and in island field applications, it has not been effective in reducing populations of free-ranging white-tailed deer.

Development of a single-shot sterilization technique as an alternative to immunocontraception was investigated by Rutgers University scientists in 2000. One possible approach is gene therapy which could accomplish reproductive control via sterilization through producing death of the anterior pituitary cells that synthesize luteinizing hormone (LH), which triggers ovulation in females and spermatogenesis in males. Efficacy testing and development of a delivery system will be investigated over the next few years.

The use of reproductive control is subject to Federal and State regulation. Additionally:

- No chemical or biological agent to accomplish reproductive control for free-ranging mammals has been approved for operational use by Federal and New Jersey authorities. The NJDFW has approved the use of SpayVac on an experimental basis as part of a research project being conducted by a private company in a NJ municipality,
- For cervids, reproductive control has not been shown to reduce free-ranging populations or damage,
- If an effective tool was legally available, and if the project area was fenced., it would take many years for some mammal populations to stabilize at a lower level, and ongoing damage would continue to occur at unacceptably high levels, and

- There are considerable logistic, economic and socio-cultural limitations to trapping, capturing and chemical treatment of the hundreds or thousands of mammals that would be necessary to affect an eventual decline in the population.

Because there is no tool currently available for field application, and due to considerable logistic, economic, and socio-cultural limitations to the use of fertility control on free-ranging mammals, this approach is not considered for further analysis in this EA.

Finding of No Significant Impact

The analysis in the EA indicates that there will not be a significant impact, individually or cumulatively, on the quality of the human environment as a result of this proposed action. I agree with this conclusion and therefore find that an EIS need not be prepared. This determination is based on the following factors:

1. Mammal damage management as conducted by WS in New Jersey is not regional or national in scope.
2. The proposed action would pose minimal risk to public health and safety. Risks to the public from WS methods were determined to be low in a formal risk assessment (USDA 1997, Appendix P).
3. There are no unique characteristics such as park lands, prime farm lands, wetlands, wild and scenic areas, or ecologically critical areas that would be significantly affected. Built-in mitigation measures that are part of WS's standard operating procedures and adherence to laws and regulations will further ensure that WS activities do not harm the environment.
4. The effects on the quality of the human environment are not highly controversial. Although there is some opposition to wildlife damage management, this action is not highly controversial in terms of size, nature, or effect.
5. Based on the analysis documented in the EA and the accompanying administrative file, the effects of the proposed damage management program on the human environment would not be significant. The effects of the proposed activities are not highly uncertain and do not involve unique or unknown risks.
6. The proposed action would not establish a precedent for any future action with significant effects.
7. No significant cumulative effects were identified through this assessment. The EA discussed cumulative effects of WS on target and non-target species populations and concluded that such impacts were not significant for this or other anticipated actions to be implemented or planned within the State.
8. The proposed activities would not affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places, nor would they likely cause any loss or destruction of significant scientific, cultural, or historical resources.

9. WS has determined that the proposed project would not adversely affect any Federal or New Jersey State listed threatened or endangered species. This determination is based upon concurrence from the FWS and the NJDFW that the project will not likely adversely affect any threatened or endangered species in New Jersey.
10. The proposed action would be in compliance with all federal, state, and local laws.

Decision and Rationale

I have carefully reviewed the Environmental Assessment prepared for this proposal and the input from the public involvement process. I believe that the issues identified in the EA are best addressed by selecting Alternative 2 (Integrated Mammal Damage Management Program (Proposed Action/No Action) and applying the associated mitigation measures discussed in Chapter 3 of the EA. Alternative 2 is selected because (1) it offers the greatest chance at maximizing effectiveness and benefits to resource owners and managers while minimizing cumulative impacts on the quality of the human environment that might result from the program's effect on target and non-target species populations; (2) it presents the greatest chance of maximizing net benefits while minimizing adverse impacts to public health and safety; and, (3) it offers a balanced approach to the issues of humaneness and aesthetics when all facets of these issues are considered. The comments identified from public involvement were minor and did not change the analysis. Therefore, it is my decision to implement the preferred alternative as described in the EA.

Copies of the EA are available upon request from the New Jersey Wildlife Services Office, 140-C Locust Grove Road, Pittstown, NJ 08867.



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5/28/04

Date

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APPENDIX A

RESPONSE TO PUBLIC COMMENTS RECEIVED ON PRE-DECISIONAL ENVIRONMENTAL ASSESSMENT

Issue 1: Scope of the EA is too broad.

Program Response 1: This issue is addressed in Sections 1.